



Ontario

Ministry  
of the  
Environment

## M.O.E. Policy Manual

<b>POLICY/TITLE</b> AIR POLLUTION CONTROL ON INCINERATORS	<b>NO.</b> 01-03-01
<u>Legislative Authority</u>  The Environmental Protection Act Regulation 309	
<u>Statement of Principles</u>  State-of-the-art air pollution control systems shall be installed on all new incinerators which burn one or a combination of domestic, biomedical, commercial or non-hazardous solid industrial wastes. This will reduce contaminant emissions from incineration systems and thereby contribute to the protection of the environment.  This policy will assist in the interpretation of Regulation 309, Sec. 9(4), and refers to the air pollution control (APC) system and Policy 01-01 - Combustion in Incinerators. Proponents are expected to commit to meeting the elements of this policy and to provide detailed information to support their commitments. The elements of this Policy will be enforced by imposing conditions in Certificates of Approval.  The emission limits below will be reviewed and refined from time to time to reflect the anticipated increase in test data from Ontario and other sources, and the anticipated development of control guidelines and/or regulations by the Canadian federal government and others.	
<u>Point of Contact</u> Director, Air Resources Branch	
<u>Effective Date</u>  January 23, 1989	

1.. Particulate Outlet  
Concentration

APC systems on incinerators shall achieve a maximum guaranteed outlet particulate loading of not greater than  $20 \text{ mg/Rm}^3$  @ 11%  $\text{O}_2$  (milligrams per dry cubic metre normalized to 11% oxygen at a reference (R) temperature of  $25^\circ\text{C}$  and a reference pressure of 101.3 kPa).

NOTE: For mobile incinerators and incinerator units with capacities less than 400 kg/h, the outlet particulate concentration of  $20 \text{ mg/Rm}^3$  @ 11%  $\text{O}_2$  shall be considered as a target in evaluating state-of-the-art control systems.

2. Hydrochloric Acid  
(HCl) Removal

APC systems on incinerators shall achieve either a minimum guaranteed HCl removal efficiency of not less than 90%, or a maximum guaranteed HCl outlet concentration of 30 ppmv @ 11%  $\text{O}_2$  (parts per million by dry volume normalized to 11% oxygen). (30 ppmv @ 11%  $\text{O}_2$  is equivalent to about  $50 \text{ mg/dry m}^3$  @  $25^\circ\text{C}$  and 11%  $\text{O}_2$ ).

3. Continuous Operation

APC systems on incinerators shall be designed to operate on a continuous basis whenever there is waste burning in the incinerator. The design of the system shall incorporate consideration of:

- . the conditions which could lead to an unscheduled shutdown of the APC system;
- . means of ameliorating such conditions; and
- . APC bypassing which cannot be avoided.

The APC/incinerator control system shall be designed to ensure the shutdown of the incinerator immediately upon an unscheduled shutdown of the APC system in a manner that will minimize air emissions. The control system shall also be designed to record pertinent information for subsequent

mandatory reporting to the local District Office of the Ministry of the Environment, and for an assessment of the reasons for shutdown and potential measures to prevent a recurrence.

4. Performance Testing and Monitoring

- 4.1 The guaranteed removal efficiency and/or outlet loadings as described above shall be demonstrated by performance test programs approved by the Air Resources Branch and, where applicable, by methods included in the Source Testing Code (Version #2, ARB-TDA-66-80) and any revisions and/or addenda thereto.
- 4.2 The provisions of Policy 01-01 shall apply with respect to control, monitoring, performance testing, record keeping and reporting, and item 8.3 shall be included in performance testing programs.

Incinerator APC systems which achieve the above requirements and Policy 01-01 will minimize the formation of organics including toxic chlorinated compounds, and minimize their emission into the ambient air. Control systems which achieve the requirements of this policy will also reduce the emissions of metals (including beryllium, arsenic, cadmium, chromium, mercury, nickel, lead, selenium, antimony and zinc) and metallic compounds, and acidic gases (including sulphur dioxide (SO<sub>2</sub>), hydrogen bromide (HBr) and hydrogen fluoride (HF)).

## INTERIM GUIDELINE FOR AIR POLLUTION CONTROL ON REFUSE INCINERATORS

This interim guideline has been prepared for discussion purposes in interpreting the Ministry Policy on Air Pollution Control on Refuse Incinerators (01-03). The emission limits below have been developed based on available test data on existing installations. The guideline will be reviewed and refined from time to time to reflect the anticipated increase in test result data from Ontario and other sources, and the anticipated development of control guidelines and/or regulations by the Canadian federal government and others.

1. Particulate Outlet  
Concentration

APC systems on refuse incinerators shall have a maximum guaranteed outlet particulate loading of not greater than 20 mg/Rm<sup>3</sup> @ 11% O<sub>2</sub> (milligrams per dry cubic metre normalized to 11% oxygen at a reference (R) temperature of 25°C and a reference pressure of 101.3 kPa).

2. Hydrochloric Acid (HCl)  
Removal

APC systems on refuse incinerators shall have a minimum guaranteed HCl removal efficiency of not less than 90%, or a maximum guaranteed HCl outlet concentration of 30 ppmv @ 11% O<sub>2</sub> (parts per million by dry volume normalized to 11% oxygen). (30 ppmv @ 11% O<sub>2</sub> is equivalent to about 50 mg/dry m<sup>3</sup> @ 25°C and 11% O<sub>2</sub>).

3. Other Contaminants

Incinerator systems which meet the above requirements and Policy 01-01 will minimize the formation of organics including toxic chlorinated compounds, and minimize their emission into the ambient air. Control systems which achieve the requirements of this policy will also reduce the emissions of metals (including beryllium, arsenic, cadmium, chromium, mercury, nickel, lead, selenium, antimony and zinc) and metallic compounds, and acidic gases (including sulphur dioxide (SO<sub>2</sub>), hydrogen bromide (HBr) and hydrogen fluoride (HF)).

4. Performance Testing and  
Monitoring

4.1

The guaranteed removal efficiency and/or outlet loadings as described above shall be demonstrated by performance test programs approved by the Air Resources Branch and, where applicable, by methods included in the Source Testing Code (Version #2, ARB-TDA-66-80) and any revisions and/or addenda thereto.

- 4.2 Performance tests shall be undertaken within 3 months of startup and thereafter on an annual basis. The performance test results shall be used to define the acceptable range of readings for continuous monitoring devices, and any exceedance of this acceptable range for any monitor shall be reported to the local District Office of the Ministry of the Environment.